

**Notice of Allowability**

Application No.

10/693,122

Applicant(s)

KEITH ET AL.

Examiner

Art Unit

Meaghan E. MacPherson

3732

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment received on May 29, 2006 as well as a telephonic interview on June 5, 2006.
2. ☒ The allowed claim(s) is/are 1-30.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

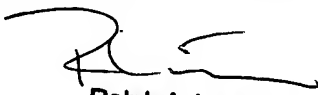
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_



  
Ralph A. Lewis  
Primary Examiner  
Au 3732

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Joseph T. Regard, Esq. on June 26, 2006.

2. The application has been amended as follows:

1. (Currently amended) The method of determining the orientation of teeth in a patient, comprising the steps of:
  - a) applying a mouthpiece and colored gel ~~solution~~ to the tooth of a patient so as to envelope said tooth, said mouthpiece further applied such that said gel ~~solution~~ is juxtaposed between ~~and contacts with~~ said mouthpiece and said tooth;
  - b) observing said colored gel ~~solution~~ through said mouthpiece;
  - c) determining the location of contact areas of said tooth to said mouthpiece by noting variations in color as denoted by said colored gel ~~solution~~.
2. (Original) The method of Claim 1, wherein said mouthpiece is an aligner.
3. (Original) The method of Claim 2, wherein in step "c" said variations in color comprises a lighter color.

4. (Currently amended) The method of Claim 3, wherein after step “c)” there is further provided the additional step “d)” of determining the location of gaps between said tooth and said mouthpiece by noting darker colored areas as denoted by said colored gel ~~solution~~.

5. (Currently amended) The method of determining the orientation of teeth in a patient in an aligner, comprising the steps of:

- a. providing a viscous ~~gel~~ solution;
- b. applying said viscous ~~gel~~ solution to said aligner;
- c. applying said viscous ~~gel~~ solution and aligner to said patient;
- d. allowing the teeth of said patient to displace said ~~gel~~ viscous solution in said aligner;
- e. observing said viscous ~~gel~~ solution through said aligner;
- f. determining areas on said aligner where said teeth contact said aligner by discerning ~~lighter colored areas~~ variations in color of said gel solution through said aligner.

6. (Currently amended) The method of correcting mis-alignment in teeth in a patient, comprising the steps of:

- a. applying an aligner and viscous ~~gel~~ solution to the teeth of the patient;
- ~~eb.~~ allowing the teeth of said patient to displace said viscous ~~gel~~ solution between said aligner and said teeth;
- ~~dc.~~ observing said viscous ~~gel~~ solution through said aligner;
- ~~ed.~~ determining areas in said aligner where said teeth contact said aligner by discerning visually discernable color variations ~~of said gel solution~~ through said aligner, providing contact points;

~~fe.~~ forming pressure deformations in said aligner in the vicinity of said contact points to urge that portion of said teeth contacting said aligner away from said aligner.

7. (Currently amended) The method of Claim 6, wherein in step “~~fe~~” there is provided the step of said patient wearing said aligner for a period of time, and there is provided after step “~~ef~~.” the additional step “~~fg~~.” of repeating steps a-e until there is no longer observed visually discernable color variations ~~of said gel solution~~ through said aligner.

8. (Currently amended) The method of Claim 7, wherein in step “e” said visually discernable color variations ~~of said gel solution~~ comprises a color tint variation.

9. (Currently amended) The method of Claim ~~8~~ 6, ~~wherein said color tint variation comprises a lighter color.~~ wherein in step “a” said viscous solution has a viscosity range of between 20,000 – 80,000 centipoise .

10. (Previously amended) A method for observing orientation of teeth, comprising:

- a. providing a mouthpiece having first and second walls and an open area therebetween, said mouthpiece formed of light permeable material;
- b. providing a colored gel composition having light transmissivity properties;
- c. applying said mouthpiece to said teeth with said gel composition situated therebetween so that said gel composition fills the voids between said teeth and said mouthpiece;
- d. observing color variations in said gel composition to discern variations of distance between said mouthpiece and said teeth such that uniform spaces between said teeth and said mouthpiece are indicated as a uniform color, pressure points are indicated as a lighter color to said uniform color, and gaps are indicated as a darker color to said uniform color.

11. (Currently amended) The method of Claim 10, wherein in step “b” said ~~colored~~ gel composition comprises toothpaste.

12. (Currently amended) The method of Claim 11, wherein in step “b” said ~~colored~~ gel composition has a viscosity range of about 20,000 – 80,000 centipoise .

13. (Currently amended) The method of Claim 12, wherein in step “b” said ~~colored~~ gel composition is of a dark color tint.

14. (Currently amended) The method of determining the orientation of teeth through an aligner, comprising the steps of:

- a. ~~applying~~ providing a layer of colored gel composition having light transmissive properties between said aligner and said teeth;
- b. utilizing said light transmissive properties of said colored gel composition to indicate via color variations, variations in the space between said teeth and said aligner;
- c. observing said color variations through said aligner to discern variations in the space between said teeth and said aligner.

15. (Currently amended) The method of determining the orientation of teeth through an aligner, comprising the steps of:

- a. applying a colored gel to a light transmissive or clear mouthpiece-type aligner;
- b. mounting said aligner with said gel to the teeth;
- c. allowing said teeth to displace said gel within said aligner;
- d. observing through said aligner color variations generated by variations in the ~~density~~ depth of said gel, wherein pressure points are indicated as lighter colors due to less gel ~~density~~

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depth and spaces are indicated as deeper color, due to ~~higher density~~ greater depth of the colored gel.

16. (Currently amended) A method for observing orientation of teeth, comprising:

- a. providing a mouthpiece having first and second walls and an open area therebetween, said aligner formed of light permeable material;
- b. providing a ~~colored-gel composition~~ having a plurality of rupturable microspheres containing color indicia;
- c. applying said mouthpiece to said teeth with said gel ~~composition~~ situated therebetween so that said gel ~~composition~~ fills the voids between said teeth and said mouthpiece,
- d. allowing said microspheres to rupture upon the application of pressure at contact points where the teeth contact said aligner so as to dispense said color indicia means at said contact point, providing dispensed color indicia.

17. (Currently amended) The method of Claim 16, wherein in step “d.”, said dispensed color indicia is visually observed through said aligner.

18. (Previously amended) The method of Claim 16, wherein in step “d.”, said color indicia is utilized to mark said aligner in the vicinity of said contact point.

19. (Currently amended) A method for observing orientation of teeth, comprising:

- a. providing a mouthpiece having first and second walls and an open area therebetween, said mouthpiece formed of light permeable material;
- b. providing a ~~colored-gel composition~~ having a plurality of colored microspheres ~~colors,~~ respectively;

c. applying said mouthpiece to said teeth with said gel composition situated therebetween such that said ~~gel composition fills the voids between said teeth and said mouthpiece, while said~~ microspheres are displaced from contact areas where said teeth contact said aligner, so as to provide visually discernable indication of said contact areas through said aligner.

20. (Currently amended) The method of determining the orientation of teeth in a patient in an aligner, comprising the steps of:

- a. providing a viscous ~~gel~~ solution;
- b. applying said viscous ~~gel~~ solution to said aligner;
- c. applying said viscous ~~gel~~ solution and aligner to said patient;
- d. allowing the teeth of said patient to displace said ~~gel~~ viscous solution in said aligner;
- e. photographing said viscous ~~gel~~ solution through said aligner, providing a photograph;
- f. analyzing said photograph to determine areas on said aligner where said teeth contact said aligner by discerning variations in color as denoted by said viscous solution ~~lighter-colored areas of said gel solution~~ through said aligner.

21. (Currently amended) The method of correcting mis-alignment in teeth in a patient, comprising the steps of:

- a. applying an aligner and viscous-~~gel~~ solution to the teeth of the patient;
- be. allowing the teeth of said patient to displace said viscous-~~gel~~ solution between said aligner and said teeth;
- cd. photographing said viscous-~~gel~~ solution through said aligner, providing a photograph;

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de. analyzing said photograph to determine areas in said aligner where said teeth contact said aligner by discerning visually discernable color variations of said ~~gel~~ solution through said aligner, providing contact points;

ef. forming pressure deformations in said aligner in the vicinity of said contact points to urge that portion of said teeth contacting said aligner away from said aligner.

22. (Currently amended) The method of Claim 21, wherein there is provided the additional step "gf" of repeating steps a-~~fe~~, until said mis-alignment has been corrected.

23. (new) The method of Claim 21, wherein said solution comprises a gel.

24. (new) The method of Claim 21, wherein said solution has a viscosity range of between 20,000 – 80,000 centipoise.

25. (new) The method of Claim 15, wherein said gel has a viscosity range of between 20,000 – 80,000 centipoise.

26. (new) The method of Claim 15, wherein said gel comprises toothpaste.

27. (new) The method of Claim 5, wherein said viscous solution comprises a gel.

28. (new) The method of Claim 27, wherein said viscous solution is colored.

29. (new) The method of Claim 28, wherein said viscous solution has a viscosity range of between 20,000 – 80,000 centipoise.

30. (new) The method of Claim 1, wherein said gel has a viscosity range of between 20,000 – 80,000 centipoise.




3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Meaghan E. MacPherson whose telephone number is (571)-272-5565. The examiner can normally be reached on Mon-Fri 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patricia Bianco can be reached on (571)-272-4940. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
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